**Broad Range 16 S rDNA PCR as an early diagnostic tool for neonatal sepsis**

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**Abstract:**

Clinical diagnosis of neonatal sepsis is difficult even in the most sophisticated settings. Many technical pitfalls raise questions regarding blood culture reliability in diagnosis of neonatal sepsis. Detection of microbial DNA rather than the microorganisms themselves is a new era has been introduced in diagnostic microbiology that allows effective and rapid diagnosis of many diseases; it is suggested to represent a rapid and sensitive method in diagnosing bacterial sepsis in neonates. Aim of the study: To evaluate the role of Broad Range 16 S rDNA PCR in diagnosis of sepsis in newborn infants and to compare the results of PCR with the conventional blood culture. Patients and Methods: 58 newborn infant with clinically suspected sepsis were included in the present work. Complete blood picture and C-reactive protein level were done. Concomitant blood culture and 16S rDNA gene PCR amplification were done to all newborn infants included in this study. Results: blood cultures were positive in only 28(48.2%) of cases. With the molecular method of broad range 16S rDNA PCR, the detection of bacteria in this study was improved to 38 (65.5%) of these patients. Compared to blood culture, the diagnosis of bacterial sepsis in the newborn by PCR revealed 96.4% sensitivity, 66.6% specificity, 72.9% positive predictive value and 95.2% negative predictive value. Out of 58 newborn infants included in this study 41 patients had suspected early onset sepsis (EOS) 

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